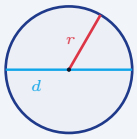
Circles: Circumference and Area

Name: _____	Date: _____	Score: _____ / 18

Quick Review and Helpful Hints

For a circle with radius r (and diameter $d = 2r$): the *circumference* (distance around) is $C = 2\pi r = \pi d$, and the *area* (space inside) is $A = \pi r^2$. Use $\pi \approx 3.14$. Remember the area uses the radius *squared*.

▷ **Example:** Find the area of a circle with radius 4 (use $\pi \approx 3.14$).
Work: Area is πr^2. Square the radius first: $4^2 = 16$. Then multiply: 3.14×16.
★ **Answer:** 50.24



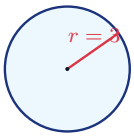
$C = 2\pi r = \pi d;$

$A = \pi r^2.$

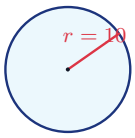
Practice Problems

Use $\pi \approx 3.14$. Use each circle diagram to find the circumference (C) or area (A) as directed.

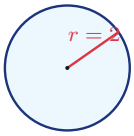
1. Find C.



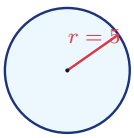
2. Find C.



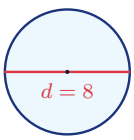
3. Find A.



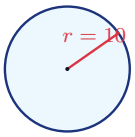
4. Find A.



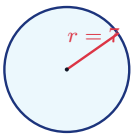
5. Find C.



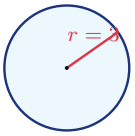
6. Find A.



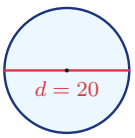
7. Find C.



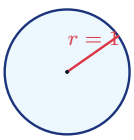
8. Find A.



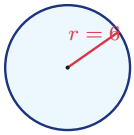
9. Find C.



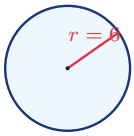
10. Find A.



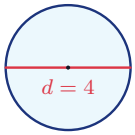
11. Find C.



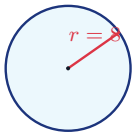
12. Find A.



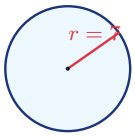
13. Find C.



14. Find A.



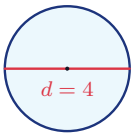
Word Problems



15. A circular garden has radius 7 m. What is the distance around it?

Use $C = 2\pi r$, $\pi \approx 3.14$

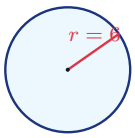
Work: _____



17. A round table has diameter 4 feet. What is the distance around its edge?

Use $C = \pi d$, $\pi \approx 3.14$

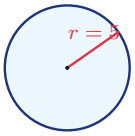
Work: _____



16. A pizza has radius 6 inches. What is its area?

Use $A = \pi r^2$, $\pi \approx 3.14$

Work: _____



18. A circular pool has radius 5 feet. What is the area of a cover for it?

Use $A = \pi r^2$, $\pi \approx 3.14$

Work: _____

Answer Keys

1. 18.84	**7.** 43.96	**13.** 12.56
2. 62.8	**8.** 28.26	**14.** 200.96
3. 12.56	**9.** 62.8	**15.** 43.96 m
4. 78.5	**10.** 3.14	**16.** 113.04 in^2
5. 25.12	**11.** 37.68	**17.** 12.56 ft
6. 314	**12.** 113.04	**18.** 78.5 ft^2

Step-by-Step Explanations

1. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Circumference is $2\pi r$. With $\pi \approx 3.14$: $2 \times 3.14 \times 3 = 18.84$. So the final answer is 18.84.

2. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $C = 2\pi r = 2 \times 3.14 \times 10 = 62.8$. So the final answer is 62.8.

3. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Area is πr^2. Square the radius first: $2^2 = 4$, then $3.14 \times 4 = 12.56$. So the final answer is 12.56.

4. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = \pi r^2 = 3.14 \times 5^2 = 3.14 \times 25 = 78.5$. So the final answer is 78.5.

5. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is With the diameter given, use $C = \pi d = 3.14 \times 8 = 25.12$. So the final answer is 25.12.

6. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 3.14 \times 10^2 = 3.14 \times 100 = 314$. So the final answer is 314.

7. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $C = 2\pi r = 2 \times 3.14 \times 7 = 43.96$. So the final answer is 43.96.

8. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 3.14 \times 3^2 = 3.14 \times 9 = 28.26$. So the final answer is 28.26.

9. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $C = \pi d = 3.14 \times 20 = 62.8$. So the final answer is 62.8.

10. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 3.14 \times 1^2 = 3.14$. So the final answer is 3.14.

11. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $C = 2\pi r = 2 \times 3.14 \times 6 = 37.68$. So the final answer is 37.68.

12. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 3.14 \times 6^2 = 3.14 \times 36 = 113.04$. So the final answer is 113.04.

13. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $C = \pi d = 3.14 \times 4 = 12.56$. So the final answer is 12.56.

14. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 3.14 \times 8^2 = 3.14 \times 64 = 200.96$. So the final answer is 200.96.

15. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Distance around is the circumference: $C = 2\pi r = 2 \times 3.14 \times 7 = 43.96$ m. So the final answer is 43.96 m.

16. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Area is $\pi r^2 = 3.14 \times 6^2 = 3.14 \times 36 = 113.04$ in^2. So the final answer is 113.04 in^2.

17. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Distance around uses the diameter: $C = \pi d = 3.14 \times 4 = 12.56$ ft. So the final answer is 12.56 ft.

18. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Cover area is $\pi r^2 = 3.14 \times 5^2 = 3.14 \times 25 = 78.5$ ft^2. So the final answer is 78.5 ft^2.

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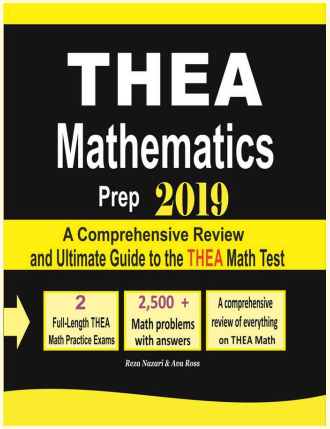

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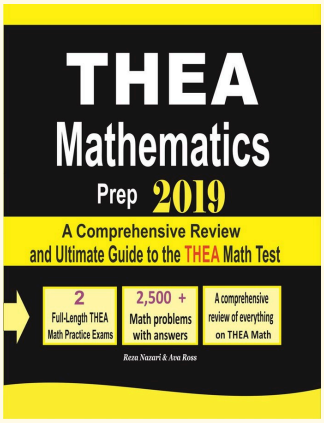

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